

WHAT IS CLAIMED IS:

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1. A multi-tier system for digital radio communication, comprising:
a first-tier base station comprising a first radio transceiver operating in accordance with a first communication protocol, said first-tier base station connected to a local area network ("LAN");

a second-tier base station comprising a second radio transceiver operating in accordance with a second communication protocol independent of said first communication protocol and said second-tier base station connected to said first-tier base station;

a first-tier remote unit wirelessly connected to said first-tier base station through said first radio transceiver; and

a second-tier remote unit wirelessly connected to said second-tier base station through said second radio transceiver.

2. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a data collection device.

3. The system of claim 2, wherein said first-tier remote unit or second-tier remote unit comprises a bar code reader or an RFID reader.

4. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a vending machine.

5. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a pager.

6. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a door lock.

7. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a computer peripheral.

8. The system of claim 1, wherein said first-tier remote unit or second-tier remote unit comprises a computer peripheral selected from the group comprising a printer, modem, handheld terminal, point of sale station, and other serial or parallel devices.

9. The system of claim 1, wherein said second-tier base station is wirelessly connected to said first-tier base station.

10. The system of claim 1, wherein said first-tier base station is wirelessly connected to the LAN.

11. The system of claim 1, wherein said second-tier base station is connected to said first-tier base station through a serial port.

~~11.12~~ The system of claim 1, further comprising:
another second-tier base station wirelessly connected to said second-tier base station.

~~12.13~~ A multi-tier system for digital packet radio communication, comprising:
a host connected to a local area network;
a first-tier base station connected to said host through the local area network, said first-tier base station comprising a first radio transceiver for spread spectrum radio transmission in accordance with a first communication protocol;
a second-tier base station comprising a second radio transceiver operating in accordance with a second communication protocol independent of said first communication protocol and said second-tier base station connected to said first-tier base station;
a remote unit wirelessly connected to said second-tier base station through said second radio transceiver.

~~13.14~~ The system of claim ~~12~~¹³, further comprising:
an enclosure containing both said first-tier base station and said second-tier base station.

~~14.15~~ The system of claim ~~13~~¹⁴, further comprising:
another second-tier base station wirelessly connected to said second-tier base station.

~~15.16~~ A multi-tier system for digital packet radio communication, comprising:
a host connected to a local area network;

a first-tier base station connected to said host through the local area network, said first-tier base station comprising a first-tier radio transceiver for spread spectrum radio transmission in accordance with a first communication protocol;

a second-tier base station comprising a second-tier radio transceiver operating in accordance with a second communication protocol independent of said first communication protocol and said second-tier base station connected to said first-tier base station;

another second-tier base station comprising another second-tier radio transceiver communicating in accordance with said second communication protocol and said another second-tier base station connected to said second-tier base station; and

a remote unit wirelessly connected to said another second-tier base station through said another second-tier radio transceiver.

16. ¹⁹ The system of claim ¹⁴15, further comprising:

additional one or more second-tier base stations connected wirelessly to said first second-tier base station, each of said one or more second-tier base stations comprising a second-tier radio transceiver operating in accordance with said second communication protocol.

17. ¹⁸ The system of claim ¹⁶16, further comprising:

a plurality of additional second-tier base stations connected wirelessly and serially to said first second-tier base station, each of said additional second-tier base stations comprising a second-tier radio transceiver operating in accordance with said second communication protocol.

18. ¹⁹ A system for remotely controlling door locks, comprising:

a host connected to a local area network, said host including a database of information identifying one or more door locks and sending command signals to said one or more door locks;

a first-tier base station connected to said host through the local area network, said first-tier base station comprising a first radio transceiver for spread spectrum radio transmission of said command signals in accordance with a first communication protocol;

a second-tier base station for transmission of said command and monitor signals, said second-tier base station comprising a second radio transceiver operating in accordance with a second communication protocol independent of said first communication protocol and said second-tier base station connected to said first-tier base station; and

said one or more remote door lock units wirelessly connected to said second-tier base station through said second radio transceiver, said door lock unit operating in response to said command signals from said host.

19. ²⁰ The system in accordance with claim 18, wherein said remote door lock unit comprises a sensor for monitoring door status information.

20. ²¹ The system in accordance with claim 19, wherein said status information includes whether the door is open or closed.

21. ²² The system in accordance with claim 19, wherein said status information includes the times of entry and/or exit.

22.²³ The system in accordance with claim 19, wherein said status information is transmitted back to the host through said first-tier and second-tier base stations.

23.²⁴ A system for remotely controlling remote individual room temperature control units, comprising:

a host connected to a local area network, said host including a database of information identifying one or more remote room temperature control units and sending command signals to said one or more remote room temperature control units;

a first-tier base station connected to said host through the local area network, said first-tier base station comprising a first radio transceiver for spread spectrum radio transmission of said command signals in accordance with a first communication protocol;

a second-tier base station for transmission of said command and monitor signals, said second-tier base station comprising a second radio transceiver operating in accordance with a second communication protocol independent of said first communication protocol and said second-tier base station connected to said first-tier base station; and

said one or more remote room temperature control units wirelessly connected to said second-tier base station through said second radio transceiver, said control units operating in response to said command signals from said host.

24.²⁵ The system in accordance with claim 23, wherein said one or more remote room temperature control unit includes a sensor for monitoring room temperature and said room

temperature information is relayed back to the host through said first-tier and second-tier base stations.

26. A base station system, comprising:
- a base station for receiving radio signals and a wired connection to a local area network (LAN);
 - an enclosure covering said base station with a building information sign.

27. The base station system of claim 25, wherein said building information sign is an EXIT sign.

28. The base station system of claim 25, wherein said building information sign is a STAIRS sign.

29. A wireless network of customer inquiry stations, comprising:
- one or more customer inquiry stations, each having a radio module for communication;
 - a second-tier base station for transmission of customer inquiry related data for wireless connection with said one or more customer inquiry stations;
 - a first-tier base station for transmission of customer inquiry related data for wireless connection with said second-tier base station;
 - a host with a program for processing and generating customer inquiry related

29.³⁰ The wireless network of claim 28, wherein said customer inquiry related data is customer price inquiry on an item.

31.³² The wireless network of claim 30, wherein said automatic identification reader comprises a bar code reader.

32.³³ The wireless network of claim 30, wherein said automatic identification reader comprises a radio frequency identification reader.

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